Effects of plyometric training on the development the vertical jump in male volleyball players

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ABSTRACT:

This study aimed to investigate the effect of a 6-week plyometric exercise training program on the development of lower limb explosive power in terms of vertical jumping ability in university level volleyball players. The study involved 9 male volleyball players from the Beijing Sports University Sports Club, with a minimum of 5 years of training and competition experience. The program consisted of various bounds, hops, and jumps in vertical, horizontal, and mixed directions. During the program, a progressive overload of plyometric intervention was applied. Lower limb explosive power in the form of vertical jumping ability was developed and tested. The jumping ability was evaluated via 5 types of maximum-effort vertical jumps, using the Opto Jump system. In addition, once each week, the heart rate was recorded using a heart rate monitor-Polar RS300X GPS (Finland). The only significant correlation was found between squat jump and number of jumps and between counter movement jump and heart rate. From a practical standpoint, the improvement, which was noticed after 3 and 6 weeks, seems to optimal period for volleyball players adaptation to significant increased training load.

KEY WORDS: volleyball games, plyometrics, periodization, vertical jumps, power